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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,025	10/06/2005	Asa Samuelsson	1523-1014	2742
<small>465</small> YOUNG & THOMPSON 209 Madison Street Suite 500 ALEXANDRIA, VA 22314			<small>7590</small> EXAMINER CALANDRA, ANTHONY J	
			<small>07/16/2008</small> ART UNIT 1791	PAPER NUMBER
			MAIL DATE 07/16/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/528,025

**Applicant(s)**

SAMUELSSON ET AL.

**Examiner**

ANTHONY J. CALANDRA

**Art Unit**

1791

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-50 is/are pending in the application.
- 4a) Of the above claim(s) 31-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 3/16/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Detailed Office Action***

1. The communication dated 4/14/2008 has been entered and fully considered.
2. Claims 19-50 are pending of which claims 31-50 are withdrawn from consideration.

***Election/Restrictions***

3. Applicant's election with traverse of Group I claims 19-30 in the reply filed on 4/14/2008 is acknowledged. The traversal is on the ground(s) that ANTKOWIAK does not show the special technical feature of removing intra-fiber liquid. Applicant states that ANTKOWIAK only discloses a consistency of 15% and it is not suggested that the intra-fiber liquid be removed. Applicant states that a consistency of 30-40% is required. This is not found persuasive because ANTKOWIAK states that the pulp consistency can be controlled to a high consistency [column 7 lines 20-25] to suit the needs of the system. ANTKOWIAK discloses high consistency as greater than 25% consistency [column 4 lines 5-6] which the examiner has interpreted as overlapping with the range 30-40% consistency.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 19-23, 25, 27, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent # 5,785,810 SALMINEN.

As for claim 19, SALMINEN discloses a process for washing pulp [abstract]. SALMINEN discloses compressing a fiber cake to a consistency of 25-35% [column 10 line 64 – column 11 line 2] which removes liquid from inside the fiber walls. Applicant defined 30-40% consistency as the consistency necessary to be reached before the intra-fiber liquid is removed in substantial quantities [arguments 4/14/2008]. As SALMINEN reaches the level of 35% the examiner has interpreted this as removing a substantial amount of liquid inside the fiber walls (*compressing a fiber cake to such a degree that a substantial quantity of the liquid inside the fiber walls is expressed into the space between the fibers and partially out of the fiber cake*). SALMINEN discloses that the fiber is washed with liquor containing bleaching chemicals (*forcibly supplying the replacement liquid to the fiber cake during the compression into the space between the fibers and thus displacing the original liquid inside the fiber walls from the space between the fibers*[column 3 lines 20-25 and column 7 lines 24-32]). SALMINEN further states that additional bleaching agent is added as the pulp leaves the washer into a treatment vessel (*letting the fibers expand while supplying additional replacement liquid which is thus further absorbed by the expanding fibers* [column 3 lines 20-25]).

As for claim 20, SALMINEN discloses the replacement liquid can contain chemicals such as  $H_2O_2$  and NaOH [Figure 38, column 12 lines 22-28].

As for claim 21, SALMINEN discloses the replacement liquid can contain acids such as  $H_2SO_4$  and bases such as NaOH [Figure 38, column 12 lines 22-28].

As for claims 22 and 23, SALMINEN discloses bleaching and delignifying agents such as peroxide and ozone [Figure 38, column 12 lines 22-28].

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As for claim 25, SALMINEN discloses the chelating agent DTPA [Figure 38, column 12 lines 22-28, column 18 lines 1-5].

As for claim 27, SALMINEN discloses NaOH, sodium is an alkali earth metal ion [Figure 38, column 12 lines 22-28].

As for claim 30, SALMINEN discloses metal ions, peroxide, H<sub>2</sub>SO<sub>4</sub>, NaOH and ozone which are inorganic substances [Figure 38, column 12 lines 22-28].

6. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent # 5,842,242 ANTOWIAK, hereinafter ANTOWIAK,

ANTOWIAK discloses a process for washing pulp [abstract]. ANTOWIAK discloses compressing a fiber cake to a consistency to a high consistency [column 7 lines 20-25] which discloses as greater than about 25% [column 4 lines 5-6] which removes liquid from inside the fiber walls. Applicant defined 30-40% consistency as the consistency necessary to be reached before the intra-fiber liquid is removed in substantial quantities [arguments 4/14/2008]. Examiner has interpreted about above 25% to be overlapping with the range 30-40% consistency with sufficient specificity. As ANTOWIAK teaches a consistency of greater than about 25% the examiner has interpreted this as removing a substantial amount of liquid inside the fiber walls (*compressing a fiber cake to such a degree that a substantial quantity of the liquid inside the fiber walls is expressed into the space between the fibers and partially out of the fiber cake*). Alternatively, at the time of the invention it would have been obvious to a person of ordinary skill in the art to optimize the consistency of greater than about 25% to within

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the range of 30-40%. Consistency is a clear result effective variable, therefore without evidence of unexpected results it is *prima facie* obvious to optimize the consistency [2144.05 (II) (B) Optimization of ranges and result effective variables]. Further, ANTOWIAK suggests that the consistency can be changed to suit the system [column 7 lines 20-25].

ANTOWIAK discloses that the fiber is washed with filtrate/water (*forcibly supplying the replacement liquid to the fiber cake during the compression into the space between the fibers and thus displacing the original liquid inside the fiber walls from the space between the fibers* [Figure 1, column 6 line 65 - column 7 line 2]). ANTOWIAK further states that additional filtrate/water is added as the pulp leaves the washer (*letting the fibers expand while supplying additional replacement liquid which is thus further absorbed by the expanding fibers* [Figure 1, column 8 lines 56-60]).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent # 5,785,810 SALMINEN in view of U.S. Patent # 4,661,205 OW et al., hereinafter OW.

As for claim 24, SALMINEN discloses peroxide as a bleaching agent [Table 38]. SALMINEN does not disclose using any catalysts during treatment of the pulp. OW discloses the use of a small amount of metal salt to obtain a catalytic effect [column 2 lines 58-66]. At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the peroxide treatment of SALMINEN with the catalyst of OW. A person of ordinary skill in the art would be motivated to do so to higher brightness and lower brightness reversion [column 6 Table 2 in the column].

10. Claims 26, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent # 5,785,810 SALMINEN in view of U.S. Patent #6,464,832 ENGELHARDT et al, hereinafter ENGELHARDT.

As for claims 26, 28, and 29 SALMINEN discloses that treatment chemicals can be added to the pulp during washing/dewatering [column 12 lines 22-28]. SALMINEN does not disclose adding a dyeing agent or a fluorescent tracer to the pulp. ENGELHARDT discloses the use of stilbenes, fluorescent dies, which can be added to the pulp mass [abstract, column 1 lines 19-24]. ENGELHARDT further discloses using a cationic retention aid with the stilbene [column 10 line 25]. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the stilbenes/retention aid of ENGELHARDT in the pulp bleaching of SALMINEN. A

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person of ordinary skill in the art would be motivated to do so to obtain the higher brightness pulp as disclosed by ENGELHARDT [column 10 lines 33-44].

11. Claims 20-23, 25, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,842,242 ANTOWIAK, hereinafter ANTOWIAK, in view of U.S. Patent # 5,785,810 SALMINEN or, alternatively, SALMINEN in view of ANTOWIAK.

As for claims 20-23, 25, 27, and 30 ANTOWIAK discloses diluting the pulp both during compression (78) and after compression (88) [Figure 1, column 6 line 65 - column 7 line 2, column 8 lines 56-60]. ANTOWIAK states that the wash fluid can contain water or filtrate [column 8 lines 55-60]. ANTOWIAK does not suggest using other chemicals in the wash water. SALMINEN discloses multiple chemicals can be added to the wash water [Figure 38, column 12 lines 22-28]. At the time of the invention it would have been obvious to substitute the wash water containing various bleaching chemicals for the wash water of ANTOWIAK. A person of ordinary skill in the art would be motivated to do so because SALMINEN states that high consistency pulp (of which ANTOWIAK can obtain) followed by the introduction of bleaching chemicals at high consistency the diffusion is enhanced and the bleaching is enhanced [column 33 lines 8-12].

Alternatively, it would have been obvious at the time of the invention to substitute the washer of ANTOWIAK for the washer of SALMINEN. A person of ordinary skill in the art would expect both high consistency washers to wash the pulp effectively. It is prima facie obvious to substitute one known component for another known component with the expectation of predictable results.



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As for claim 20, SALMINEN discloses the replacement liquid can contain chemicals such as  $H_2O_2$  and NaOH [Figure 38, column 12 lines 22-28].

As for claim 21, SALMINEN discloses the replacement liquid can contain acids such as  $H_2SO_4$  and bases such as NaOH [Figure 38, column 12 lines 22-28].

As for claims 22 and 23, SALMINEN discloses bleaching and delignifying agents such as peroxide and ozone [Figure 38, column 12 lines 22-28].

As for claim 25, SALMINEN discloses the chelating agent DTPA [Figure 38, column 12 lines 22-28, column 18 lines 1-5].

As for claim 27, SALMINEN discloses NaOH, sodium is an alkali earth metal ion [Figure 38, column 12 lines 22-28].

As for claim 30, SALMINEN discloses metal ions, peroxide,  $H_2SO_4$ , NaOH and ozone which are inorganic substances [Figure 38, column 12 lines 22-28].

12. Claim 24 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,842,242 ANTOWIAK, hereinafter ANTOWIAK, in view of U.S. Patent # 5,785,810 SALMINEN, or, alternatively, SALMINEN in view of ANTOWIAK, as applied to claims 20-23, 25, 27, and 30 above, and further in view of U.S. Patent # 4,661,205 OW et al., hereinafter OW.

As for claim 24, SALMINEN discloses peroxide as a bleaching agent [Table 38]. SALMINEN does not disclose using any catalysts during treatment of the pulp. OW discloses the use of a small amount of metal salt to obtain a catalytic effect [column 2 lines 58-66]. At the time of the invention it would have been obvious to a person of

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ordinary skill in the art to combine the peroxide treatment of SALMINEN with the catalyst of OW. A person of ordinary skill in the art would be motivated to do so to higher brightness and lower brightness reversion [column 6 Table 2 in the column].

13. Claim 26, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,842,242 ANTOWIAK, hereinafter ANTOWIAK, in view of U.S. Patent # 5,785,810 SALMINEN, or, alternatively, SALMINEN in view of ANTOWIAK, as applied to claims 20-23, 25, 27, and 30 above, and further in view of U.S. Patent #6,464,832 ENGELHARDT et al, hereinafter ENGELHARDT.

As for claims 26, 28, and 29 SALMINEN discloses that treatment chemicals can be added to the pulp during washing/dewatering [column 12 lines 22-28]. SALMINEN does not disclose adding a dyeing agent or a fluorescent tracer to the pulp. ENGELHARDT discloses the use of stilbenes, fluorescent dies, which can be added to the pulp mass [abstract, column 1 lines 19-24]. ENGELHARDT further discloses using a cationic retention aid with the stilbene [column 10 line 25]. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the stilbenes/retention aid of ENGELHARDT in the pulp bleaching of SALMINEN. A person of ordinary skill in the art would be motivated to do so to obtain the higher brightness pulp as disclosed by ENGELHARDT [column 10 lines 33-44].

### *Conclusion*

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJC

/José A Fortuna/

Primary Examiner, Art Unit 1791